

AMENDMENTS TO THE CLAIMS:

Please cancel claims 40-43 and 64, without prejudice or disclaimer of their subject matter, amend claims 33-39, 44, 46-48, 50-55, 57-59, 61-63, and 65-67, and add new claims 68-72, as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-32. (Canceled)

33. (Currently Amended) A radio-controlled timepiece, comprising:

a housing;

a magnetic sensor-type antenna disposed in the housing, the antenna[[,]] comprising[[[:]] a magnetic core and a coil wound around the magnetic core for receiving a radio wave[[,]]; and

a non-metal cover disposed in front of a dial surface,

~~the antenna being disposed in a housing, and wherein~~ end portions of the magnetic core ~~[[being]]~~ are bent in a direction away from the housing or a metal part of the housing toward the non-metal cover.

34. (Currently Amended) ~~The magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 33, wherein the magnetic core further has bent tip end portions.

35. (Currently Amended) ~~The magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 33, wherein the magnetic core has a plurality of branched end portions, at least one of which is bent in a direction ~~away from the housing or a metal part of the housing~~ toward the non-metal cover.

36. (Currently Amended) The ~~magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 35, wherein at least one of the plurality of end portions is bent in a direction away from the housing or a metal part of the housing toward the non-metal cover, and at least one of the remaining end portions being bent in a different direction.

37. (Currently Amended) The ~~magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 33, wherein end portions of the magnetic core are shaped along an inner wall of the housing.

38. (Currently Amended) The ~~magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 33, wherein end portions of the magnetic core are inclined with respect to a center portion of the magnetic core.

39. (Currently Amended) The ~~magnetic sensor-type antenna~~ radio-controlled timepiece according to claim 33, wherein end portions of the magnetic core are inclined with respect to a center portion of the magnetic core, and tip end portions of the magnetic core being bent such that the tip end portions are in parallel with the center portion of the magnetic core.

40.-43. (Cancelled)

44. (Currently Amended) A magnetic sensor-type antenna for receiving a radio wave, the antenna comprising:

a magnetic main path member further comprising a magnetic core and a coil wound around the magnetic core; and

a pair of magnetic sub-path ~~members~~ member attached to the magnetic core without an air gap, the magnetic sub-path member being made of a material having a smaller specific permeability than that of the magnetic core.

45. (Previously Presented) The magnetic sensor-type antenna according to claim 44, wherein the magnetic sub-path member has a specific permeability of 2 or more, lower than that of the magnetic main path member.

46. (Currently Amended) The magnetic sensor-type antenna according to ~~any one of claims 33, 40, 41, or claim~~ claim 44, wherein the magnetic sensor-type antenna is disposed in a housing, and further wherein end portions of the magnetic core are bent in a direction away from the housing or a metal part of the housing.

47. (Currently Amended) A magnetic sensor-type antenna for receiving a radio wave, the antenna comprising:

a magnetic main path member further comprising a magnetic core and a coil wound around the magnetic core; and

a magnetic sub-path member attached to the magnetic core,
the magnetic sub-path member ~~[[being]]~~ including a first magnetic sub-path member, and a second magnetic sub-path member sandwiched by the first magnetic sub-path member and the magnetic core without an air gap, and

the second magnetic sub-path member having a smaller specific permeability than that of the first magnetic sub-path member.

48. (Currently Amended) ~~[[A]]~~ The magnetic sensor-type antenna according to claim 44 or 47, wherein the magnetic sub-path member is formed by a soft composite comprising a soft magnetic ferrite or metal powder or soft magnetic metal flake, and a resin or a rubber.

49. (Previously Presented) The magnetic sensor-type antenna according to claim 44 or 47, wherein the magnetic sub-path member is formed by application of a paint containing soft magnetic powder to the magnetic main path member.

50. (Currently Amended) The magnetic sensor-type antenna according to ~~any one of~~ ~~claims 33, 40, 41,~~ claim 44~~[[,]]~~ or 47, wherein the magnetic core comprises a plurality of metal wires.

51. (Currently Amended) The magnetic sensor-type antenna according to ~~any one of~~ ~~claims 33, 40, 41,~~ claim 44~~[[,]]~~ or 47, wherein the magnetic core comprises a laminate of a plurality of thin ribbons.

52. (Currently Amended) The magnetic sensor-type antenna according to claim ~~[[44]]~~47, wherein the magnetic core and the first magnetic sub-path member are laminates of thin, soft magnetic metal ribbons.

53. (Currently Amended) The magnetic sensor-type antenna according to ~~any one of~~ ~~claims 40, 41,~~ claim 44~~[[,]]~~ or 47, wherein the magnetic core is a laminate of a plurality of thin ribbons, and further wherein the magnetic sub-path member is disposed on a stratum-appearing surface of the magnetic main path member.

54. (Currently Amended) The magnetic sensor-type antenna according to ~~any one of~~ ~~claims 40, 41,~~ claim 44~~[[,]]~~ or 47, wherein the magnetic sub-path member is a laminate of a

plurality of thin ribbons, and further wherein the magnetic main path member and the magnetic sub-path member are aligned in the same lamination direction.

55. (Currently Amended) A magnetic sensor-type antenna, comprising:
a magnetic core and a coil wound around the magnetic core for receiving a radio wave, ~~wherein the antenna comprises;~~ and
a case in which the magnetic core and the coil are disposed,
wherein the case is in contact with end portions of the magnetic core,
and further wherein the case has a specific permeability of 2 or more, smaller than that of the magnetic core.

56. (Previously Presented) The magnetic sensor-type antenna according to claim 55, wherein the magnetic core has a body portion disposed in the case and end portions exposed from the case.

57. (Currently Amended) ~~[[The]]~~ A magnetic sensor-type antenna ~~according to claim 55~~ comprising:

a magnetic core and a coil wound around the magnetic core for receiving a radio wave;
and
a case in which the magnetic core and the coil are disposed,
wherein the case ~~including~~ includes a soft magnetic case portion for receiving a body portion of the magnetic core, and end portions extending from the soft magnetic case portion for receiving end portions of the magnetic core,
wherein the soft magnetic case portion has a specific permeability of 2 or more, smaller than that of the magnetic core,

and further wherein end portions of the case have a smaller specific permeability than that of the soft magnetic case portion.

58. (Currently Amended) ~~[[The]]~~ A magnetic sensor-type antenna according to claim 55 comprising:

a magnetic core and a coil wound around the magnetic core for receiving a radio wave;

and

a case in which the magnetic core and the coil are disposed,

wherein the case including a soft magnetic case portion for receiving a body portion of the magnetic core, and non-magnetic case portions extending from the soft magnetic case portion for receiving end portions of the magnetic core,

and further wherein the soft magnetic case portion has a specific permeability of 2 or more, smaller than that of the magnetic core.

59. (Currently Amended) The magnetic sensor-type antenna according to claim 55, wherein ~~the magnetic main path member comprising~~ the magnetic core and the coil wound around the magnetic core constitute a magnetic main path member, and wherein the magnetic main path member is fit in the case.

60. (Previously Presented) The magnetic sensor-type antenna according to claim 55, wherein the case is injection-molded.

61. (Currently Amended) ~~[[The]]~~ A magnetic sensor-type antenna according to claim 55 comprising:

a magnetic core and a coil wound around the magnetic core for receiving a radio wave;

and

a case in which the magnetic core and the coil are disposed,
wherein the case has a specific permeability of 2 or more, smaller than that of the
magnetic core,

and further wherein the case is obtained by placement of the magnetic main path member comprising the magnetic core and the coil wound around the magnetic core into a curable slurry charged into a mold and subsequently cured.

62. (Currently Amended) The magnetic sensor-type antenna according to claim 47 ~~or~~ 55, wherein the magnetic sensor-type antenna is disposed in a metal housing, and further wherein end portions of the magnetic core are bent in a direction away from the metal housing.

63. (Currently Amended) The magnetic sensor-type antenna according to claim 47 ~~or~~ 55, wherein the magnetic sensor-type antenna is disposed in a metal or non-metal housing together with other metal parts than the antenna, and further wherein end portions of the magnetic core are bent in a direction away from the other metal parts.

64. (Cancelled)

65. (Currently Amended) A radio-controlled timepiece, comprising the magnetic sensor-type antenna recited in any one of claims 33, 40, ~~41, 44,~~ 47, or 55, in a metal housing.

66. (Currently Amended) A keyless entry system, comprising a transmitter and a receiver, at least one of the transmitter and the receiver containing the magnetic sensor-type antenna recited in any one of claims 33, 40, ~~41, 44,~~ 47, or 55.

67. (Currently Amended) An RFID system, comprising the magnetic sensor-type antenna recited in any one of claims 33, 40, ~~41, 44,~~ 47, or 55, in an RFID tag.

68. (New) The radio-controlled timepiece according to claim 33, wherein the magnetic core is a bundle of plural metal wires.

69. (New) The radio-controlled timepiece according to claim 33, wherein the magnetic core is a laminate of plural thin ribbons.

70. (New) A magnetic sensor-type antenna, comprising:
a magnetic core and a coil wound around the magnetic core for receiving a radio wave,
and
a case in which the magnetic core and the coil are disposed,
wherein the case has a specific permeability of 2 or more, smaller than that of the magnetic core,
wherein the magnetic sensor-type antenna is disposed in a metal housing,
and further wherein end portions of the magnetic core are bent in a direction away from the metal housing.

71. (New) A magnetic sensor-type antenna, comprising:
a magnetic core and a coil wound around the magnetic core for receiving a radio wave;
and
a case in which the magnetic core and the coil are disposed,
wherein the case has a specific permeability of 2 or more, smaller than that of the magnetic core,
wherein the magnetic sensor-type antenna is disposed in a metal or non-metal housing together with other metal parts than the antenna,

and further wherein end portions of the magnetic core are bent in a direction away from the metal parts.

72. (New) The magnetic sensor-type antenna according to claim 63 or 71,
wherein the end portions of the magnetic core are substantially in parallel with a bottom surface of the metal or non-metal housing.